IN THE CLAIMS

Please cancel claims 17-28.

Please amend claims 1, 2, 9-11, 30 and 31 to read as follows.

1. A method to aid in detecting the presence of tumor cells in a patient, comprising the steps of:

determining the presence of a single basepair mutation in a mitochondrial genome of a cell sample of a patient, wherein the mutation is found in a tumor of the patient but not in normal tissue of the patient; and

identifying the patient as having a tumor if one or more single basepair mutations are determined in the mitochondrial genome of the cell sample of the patient.

2. The method of claim 1 wherein, prior to the determining, the mutation has been identified in a tumor.

9. The method of claim 1 wherein the step of determining comprises amplifying mitochondrial DNA.

10. The method of claim 1 wherein the step of determining comprises sequencing mitochondrial DNA.

11. The method of claim 1 wherein the step of determining comprises hybridization of DNA amplified from the mitochondrial genome of the cell sample to an array of oligonucleotides which comprises matched and mismatched sequences to human mitochondrial genomic DNA.

30. The method of claim 29 wherein the patient has received anti-cancer therapy and the step of determining is performed at least three times to monitor progress of the anti-cancer therapy.

31. The method of claim 1 further comprising the step of testing a normal tissue of the patient to determine the absence of the mutation.

Please add the following new claim.

32. The method of claim 1 wherein the cell sample is from a tumor.